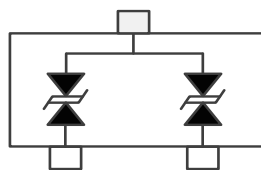


Surface Mount Transient Voltage Suppressor Diode Array

Features

- ✧ ESD protection of two +12V to -7V lines
- ✧ Solid-state silicon-avalanche technology
- ✧ Peak Power up to 500 Watts @ 8 x 20 μ s Pulse
- ✧ Low Leakage current
- ✧ Response Time is Typically < 1 ns
- ✧ Low capacitance (C_j =70pF typ.)
- ✧ IEC 61000-4-2 (ESD) $\pm$ 30kV (air), $\pm$ 30kV (contact)
- ✧ IEC 61000-4-4 (EFT) 40A (5/50ns)



Circuit Diagram

Applications

- ✧ Protection of RS-485 transceiver
- ✧ Automatic Teller Machines
- ✧ Security systems
- ✧ Networks

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch
- ✧ RoHS/WEEE Compliant



SOT-23

Absolute Maximum Rating at $T_A = 25^\circ\text{C}$, unless otherwise specified

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{PP}	500	Watts
Peak Pulse Current ($t_p = 8/20\mu\text{s}$) (note1)	I_{pp}	20	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	$^\circ\text{C}$
Junction Temperature	T_J	-55 to + 125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to + 150	$^\circ\text{C}$

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

12V TVS Parameter (pin1 / pin2 to pin3)	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	13.3			V
Reverse Leakage Current	I_R	$V_{RWM}=12\text{V}$, $T=25^\circ\text{C}$			1.0	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu\text{s}$			20	A
Clamping Voltage	V_C	$I_{PP}=20\text{A}$, $t_p=8/20\mu\text{s}$			25	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		70	90	pF
7V TVS Parameter (pin3 to pin1 / pin2)	Symbol	Conditions	Min.	Typical	Max.	Units
Reverse Stand-Off Voltage	V_{RWM}				7	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	8			V
Reverse Leakage Current	I_R	$V_{RWM}=7\text{V}$, $T=25^\circ\text{C}$			1.0	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu\text{s}$			28	A
Clamping Voltage	V_C	$I_{PP}=28\text{A}$, $t_p=8/20\mu\text{s}$			20	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		70	90	pF

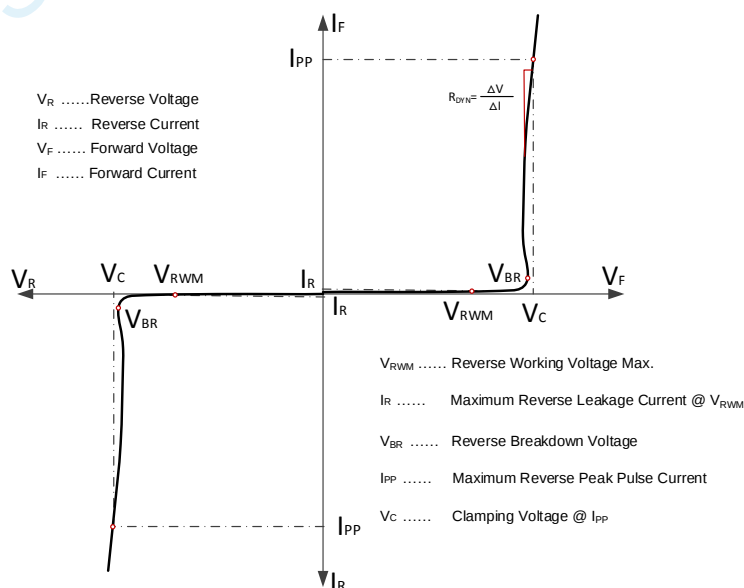
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

1. All parameters specified at $T_A = 25^\circ\text{C}$ unless otherwise noted.

2. These parameters are guaranteed by design and characterization.

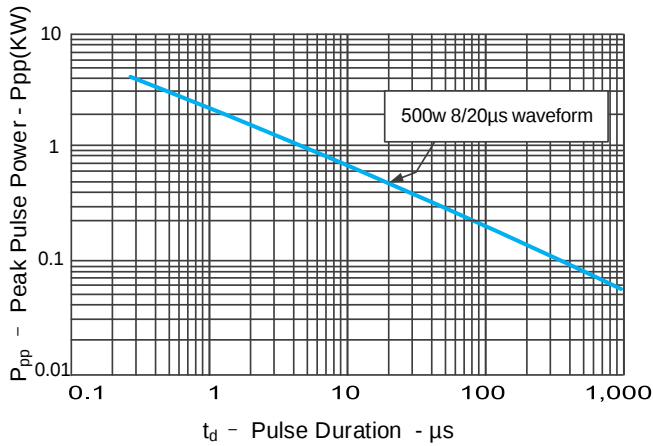
3. Standard IEC 61000-4-2 with $C_{\text{Discharge}} = 150\text{ pF}$, $R_{\text{Discharge}} = 330\ \Omega$

Electrical Parameters at $T_A = 25^\circ\text{C}$, unless otherwise specified

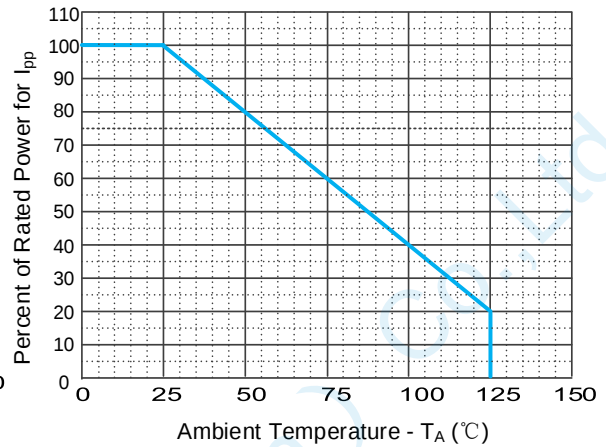


Typical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

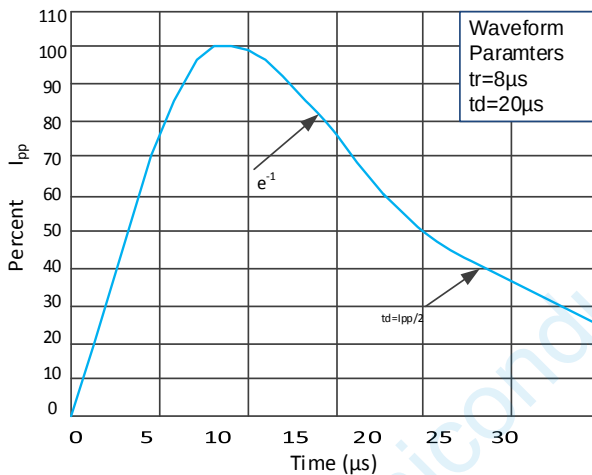
Non-repetitive Peak Pulse Power vs. Pulse Time



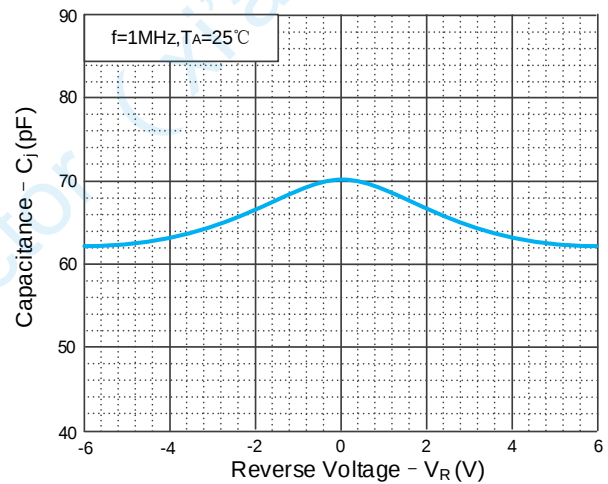
Power derating vs. Ambient temperature



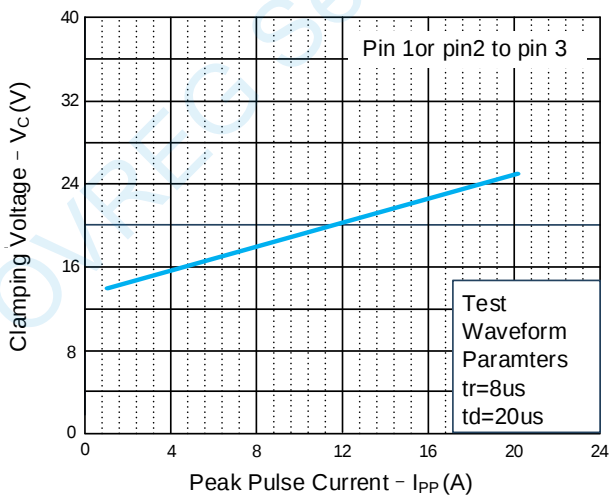
8/20 μ s Pulse Waveform



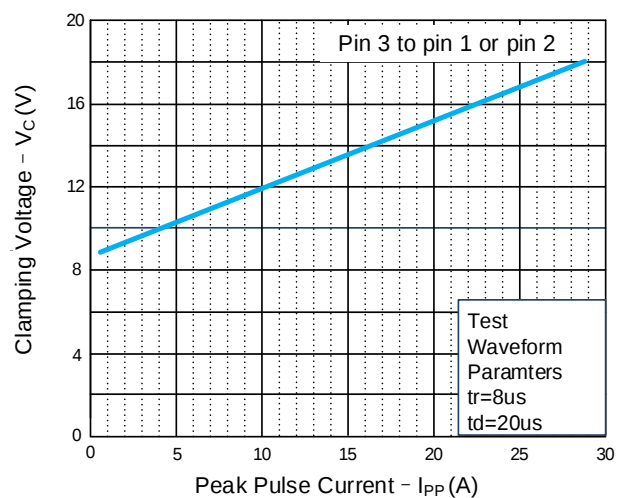
Capacitance vs. Reverse Voltage



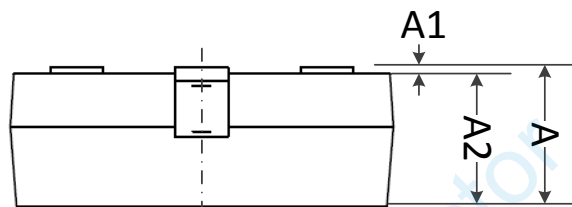
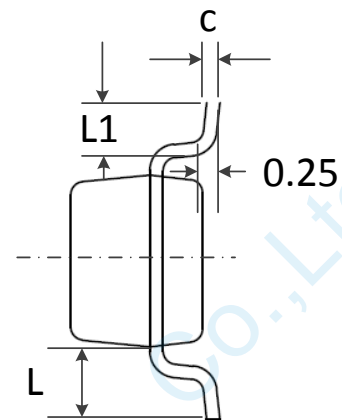
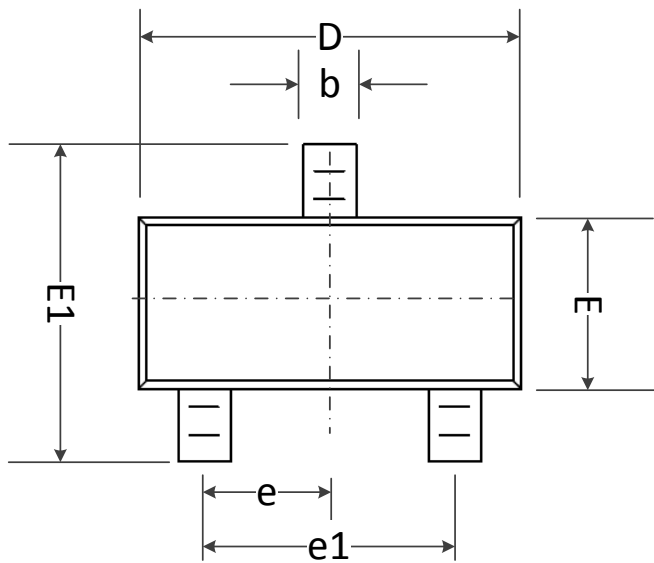
Clamping Voltage vs. Peak Pulse Current



Clamping Voltage vs. peak PulseCurrent

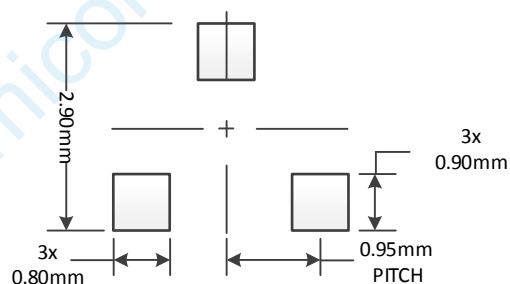


Package information



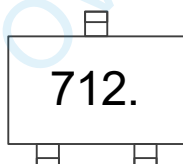
COMMON DIMENSION (MM)			
PKG	SOT23		
REF.	MIN.	NOM.	MAX.
A	0.90	-	1.15
A1	0.00	-	0.10
A2	0.90	1.00	1.05
b	0.30	-	0.50
c	0.08	-	0.15
D	2.80	2.90	3.00
E	1.20	1.30	1.40
E1	2.25	2.40	2.55
e	0.95TYP		
e1	1.80	1.90	2.00
L	0.55REF		
L1	0.30	0.45	0.50

Recommend PCB Layout



Notes: This PCB Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVE6125QP1	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton